LNP™ ELCRIN™ EXL9233RCC

DESCRIPTION

ELCRIN EXL9233RCC polycarbonate (PC) siloxane copolymer resin is a UV stabilized, medium flow, non-chlorinated, non-brominated flame retardant opaque grade with 30% post consumer recycle (PCR) content. This resin offers excellent low temperature ductility (-30 °C), UL94 V0 at 1.5mm, good chemical resistance and in combination with excellent processability and release with opportunities for shorter cycle times compared to standard PC. ELCRIN EXL9233RCC resin is a product available in wide range of opaque colors and excellent candidate for a wide variety of applications.

GENERAL INFORMATION	
Features	Chemical Resistance, Good Processability, Mechanical Recycling, Non Cl/Br flame retardant, Low temperature impact
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electrical Devices and Displays, Electrical Components and Infrastructure

TYPICAL PROPERTY VALUES

Revision 20260908

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	57	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5.6	%	ASTM D638
Nominal Strain, brk, 50 mm/min	95	%	ASTM D638
Tensile Modulus, 50 mm/min	2180	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	88	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2225	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	56	MPa	ISO 527
Tensile Stress, break, 50 mm/min	57	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.4	%	ISO 527
Tensile Modulus, 1 mm/min	2200	MPa	ISO 527
Tensile Nominal Strain, break, 50 mm/min	100	%	ISO 527
Flexural Strength, 2 mm/min	85	MPa	ISO 178
Flexural Modulus, 2 mm/min	2200	MPa	ISO 178
Flexural Stress, break, 2 mm/min	75	MPa	ISO 178
Flexural Stress at 3.5% strain, 2 mm/min	65	MPa	ISO 178
Flexural Strain, break, 2 mm/min	9	%	ISO 178
IMPACT [1]			
Izod impact, notched			
23°C	850	J/m	ASTM D256
0°C	760	J/m	ASTM D256
-30°C	660	J/m	ASTM D256

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80*10*3 +23°C	65	kJ/m²	ISO 180/1A
80*10*3 0°C	55	kJ/m²	ISO 180/1A
80*10*3 -30°C	35	kJ/m²	ISO 180/1A
80*10*4 +23°C	60	kJ/m²	ISO 180/1A
80*10*4 0°C	50	kJ/m²	ISO 180/1A
80*10*4 -30°C	30	kJ/m²	ISO 180/1A
Izod Impact, Unnotched			
23°C	NB	J/m	ASTM D4812
80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Instrumented Dart Impact Total Energy, 23°C	70	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	70	J	ASTM D3763
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	65	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	40	kJ/m²	ISO 179/1eA
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	60	kJ/m²	ISO 179/1eA
Charpy 0°C, V-notch Edgew 80*10*4 sp=62mm	55	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	30	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Multi-Axial Instrumented Impact Energy @ peak, 23°C	105	J	ISO 6603-2
Multi-Axial Instrumented Impact Energy @ peak, -30°C	125	J	ISO 6603-2
THERMAL [1]			
Vicat Softening Temp, Rate B/120	135	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	133	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	127	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	115	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	128	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Af
Vicat Softening Temp, Rate B/50	133	°C	ISO 306
Vicat Softening Temp, Rate B/120	134	°C	ISO 306
CTE			
CTE, -40°C to 110°C, flow	7.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 110°C, xflow	7.7E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
PHYSICAL [1]			
Melt Flow Rate, 260°C/5.0 kgf	14	g/10 min	ASTM D1238
Density	1.2	g/cm³	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	13	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 260°C/5.0 kg	17	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E45329-104672327	-	-
Oxygen Index (LOI)	39	%	ISO 4589
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	900	°C	IEC 60695-2-13
INJECTION MOLDING [3]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Temperature	110	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	24	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 315	°C	
Nozzle Temperature	275 – 310	°C	
Front - Zone 3 Temperature	280 – 315	°C	
Middle - Zone 2 Temperature	270 – 305	°C	
Rear - Zone 1 Temperature	265 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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